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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/721,750	11/26/2003	Atsushi Watanabe	392.1844	3941

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EXAMINER

BEHNCKE, CHRISTINE M

ART UNIT PAPER NUMBER

3661

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/721,750

Applicant(s)

WATANABE ET AL.

Examiner

Christine M. Behncke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/18/04 and 1/3/05</u> | 6) <input checked="" type="checkbox"/> Other: <u>See Continuation Sheet</u> |

Continuation of Attachment(s) 6). Other: JP2002-123306; English translation of JP2002-123306; and English translation of JP6-149678.

DETAILED ACTION

1. This office action is in response to the application filed 26 November 2003, in which claims 1-8 were presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koichi et al., Japanese Patent publication No. 2002-123306, in view of Takeshi, Japanese Patent Publication No. 06-249678.

3. **(Claim 1)** Koichi et al. discloses an operation state analyzer for analyzing an operation state of a robot, comprising: image capturing means for acquiring image

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information representing images of the robot in operation (camera 11, Figure 1); internal information acquiring means for acquiring internal information of the robot including information on a state of input/output signals and a state of motion of the robot (PLC and CNC, [0014]); setting means for setting a starting condition for starting and a terminating condition for terminating the acquiring of the information ([0021] and [0028]); and the acquiring means acquires the internal and image information at every predetermined period to be associated with the time at when the starting condition is fulfilled until when the terminating condition is fulfilled ([0021] and [0028]). Koichi et al. does not explicitly disclose a recording means for recording the image and internal information. However, Takeshi et al. teaches a method and device for monitoring a machine to examine for cause of defects including a recording means for recording the image information (information storage device 76, [0044] and [0067]-[0068]) acquired by image capturing means (image pick-up, [0044]) and the internal information acquired by internal information acquiring means ([0009]) at every predetermined period to be associated with the time at which the information is acquired from when a starting condition is fulfilled until when a terminating condition is fulfilled ([0007]-[0009]).

4. **(Claim 2)** Takeshi et al. further teaches a display means for displaying the images of the work machine based on the recorded image information in time series on a display device ([0122]-[0123]); input means for allowing an input to select one of the displayed images of the work machine ([0122]), wherein said display means displays the recorded internal information associated with the selected one of the displayed images on the display device ([0122]-[0123]).

5. **(Claim 6)** Takeshi et al. further teaches means for displaying the state of the input/output signals based on the recorded internal information in time series as a graph ([0009] and [0044]).

It would have been obvious to one of ordinary skill in the electronic and robotic arts at the time of the invention to combine the system of Koichi et al. with the teachings of Takeshi et al. because as Takeshi et al. suggests, the recording of various kinds of observed data, disclosed by both Takeshi et al. and Koichi et al., being stored together and displayed increases the efficiency of the process by allowing an operator to promptly retrieve and analyze the collected information to quickly diagnose the abnormalities ([0006]-[0007]).

6. **(Claim 3)** Koichi et al. further discloses calculation means for calculating one or more items of velocities, accelerations and torques of respective axes of the machine ([0014]), and a velocity, an acceleration and a torque of a tool center point of the machine based on the recorded internal information and the recorded time at which the information is acquired for image of the machine ([0014]), wherein said display means displays the calculated items together with the recorded internal information associated with the selected one of the images of the machine on the display device ([0028]-[0031]).

7. **(Claim 4)** Koichi et al. further discloses wherein said display means displays an indication to the image of the robot in a state where at least one of the items exceeds a predetermined allowable value ([0023] and [0035]).

8. **(Claim 5)** Koichi et al. does not disclose wherein the display means displays the internal information in a time series graph. However, Takeshi et al. teaches a display means displaying acquired internal information of a machine in time series as a graph ([0122]-[0123]). It would have been obvious to one of ordinary skill in the computer and electronic art at the time of the invention to combine the system of Koichi et al. with the teachings of Takeshi et al. because, as Takeshi et al. suggests, graphically displaying information in graphic wave form allows the operator to quickly grasp abnormalities and defects of the process (Abstract and [0009]).

9. **(Claims 7 and 8)** Koichi et al. further discloses the setting means sets the starting condition by designating a particular operation state of the robot ([0023] and [0028]), and sets the terminating condition by designating one of a particular operation state of the robot ([0023] and [0035]-[0036]), and displaying the acquired information ([0028]). Koichi et al. does not disclose displaying the acquired information specifically with an elapsed time from start to termination. However, Takeshi et al. teaches retrieving stored information and displaying the information is a form of wave graphical representations and stored according to the sequential time, commonly known in the art for the graphs to start the display with the elapsing time from a start of the acquiring of the information and the number of acquisitions of the information ([0009] and Abstract). It would have been obvious to one of ordinary skill in the electronic art at the time of the invention to combine the system of Koichi et al. with the teachings of Takeshi et al. because as Takeshi et al. suggests, this allows the process to be reversely displayed, edited and quickly analyzed by an operator (Abstract and [0009]).

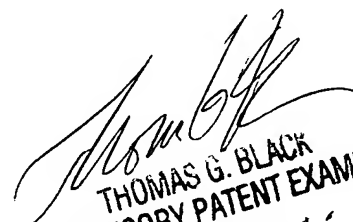
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

03-04-2006


THOMAS G. BLACK
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